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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/018,061	07/30/2002	David Bailey	APV 31535	5392

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EXAMINER

BELL, BRUCE F

ART UNIT PAPER NUMBER

1746

DATE MAILED: 11/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/018,061	<b>Applicant(s)</b> BAILEY ET AL.	
	<b>Examiner</b> Bruce F. Bell	<b>Art Unit</b> 1746	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,2,4-9,11-14 and 21-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-9,11-14 and 21-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 July 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____.  |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 21-24 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The applicants instant specification does not give any examples or indications of how the gas is trapped in a frangible portion and how the size and shape of the groove are used to define a line of weakness in the metal deposited within the groove based on the gas trapped. The only recitation found in the instant specification is shown on page 10 of the instant specification, where it states that the V-groove (not the frangible portion) can be sized and shaped to trap gaseous material to define a line of weakness in the arc of the groove. This does not appear to be the same as trapping gas in a frangible portion, as the frangible portion, appears to be the copper metal. It is not clear as to whether the gas is trapped in the metal or in the groove behind the metal. Further, if the gas trapped is in the groove, then how would the metal substantially fill the entire groove, as required in dependent claim 23, and if the gas is trapped in the metal, then how is the gas trapped in the metal, since there is no disclosure, in the instant specification as presented, showing this aspect of the invention. The instant

specification only sets forth that it is the V-groove that is sized and shaped to trap gaseous material.

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 2, 4-9, 11-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over CA 910844.

CA 910844 discloses electrolytic processing for the recovery of copper, wherein the cathode blank 10 has a bottom edge 16 is provided with an inverted V-shaped groove 18 leading substantially to the cathode blank faces. See page 6, line 25 – page 7, line 2. The V-groove 18 at the bottom edge of the cathode blank 10 causes the copper to deposit at this edge in the form of dendrites which develop in directions normal to the sides of the groove. The plane at which these dendrites meet in their growth is a plane of weakness at which the deposit can readily be broken. See page 7, lines 12-17. The plane of weakness in the bottom edge deposit eliminates any serious interference with the stripping operation. See page 8, lines 26-27.

The subject matter as a whole would have been obvious to one having ordinary skill in the art at the time the instant invention was made because even though the prior art of CA 910844 does not specifically disclose the angle of the V-groove, the patent does disclose that the copper material when separated from the cathode plate,

separates easily due to the plane of weakness in the bottom edge of the cathode plate. One having ordinary skill in the art would have the ability to perform routine experimentation in order to optimize this plane of weakness and further, the figure no. 3 of the CA patent shows the v-groove used in the bottom of the plate and it appears to be in the range as set forth in applicant's instant claims. Therefore, the prior art of CA 910844 renders the applicant's instant invention obvious for the reasons set forth above.

### ***Response to Arguments***

3. Applicant's arguments filed September 28, 2006 have been fully considered but they are not persuasive.

Applicants argue the rejection of claims 1, 2, 4-9 and 11-14 under 35 USC 103(a) as being unpatentable over CA 910844. Applicants arguments are with respect to there not being an angle present within the presently claimed range, and that the resulting fracture line is essentially on one side of the cathode mother plate 10.

The examiner disagrees with this assessment. It is clear from the teaching in the CA 910844 patent that the V-groove at the bottom edge of the cathode blank deposits the copper at an edge of the v-groove and that dendrites of the copper develop in directions normal to the sides of the groove, filling the V with the copper material and where the growth of the material from each edge of the V to the center of the V, a plane of weakness forms at which point the deposit can be readily broken. Therefore, the V-groove is filled with copper material as in the instant invention and the center of the V-groove where the plane of weakness forms in the CA patent, is the same as the line of

weakness as set forth in the instant invention. Therefore, the CA patent even though it does not disclose the specific angles of the V-groove, does recognize that the V-groove must be filled with material and must also form a line of weakness to separate the copper sheets from the cathode plate. Therefore, the CA patent renders obvious the applicants instant invention as set forth above, since it is apparent that the angles of the v-groove of the patented invention must be within the ranges set forth by the applicants instant invention for the copper sheets to have a line of weakness within the V-groove, and since the material does in fact fill the groove which is stated as being critical in applicants instant specification for the line of weakness to form.

Applicants arguments with respect to the ranges permitting separation of the deposited metal into two substantially equivalent sheets is met by the CA patent since the line of weakness is found in the apex or arc of the V-groove as set forth above. Therefore, this aspect of the instant invention is met in the patent.

Applicants arguments with respect to the groove being shaped to allow deposition of metal directly adjacent the apex of the groove has also been disclosed above wherein the CA patent discloses that the dendrite growth into the v-groove forms a line of weakness. Therefore, this aspect of the instant invention has been met by the prior art patent.

Applicants arguments with respect to the newly presented claims do not find support in the instant invention as set forth above in the 35 USC 112 – first paragraph rejection. The arguments with respect to the gas rising from below the cathode plate during deposition of metal can not even be found by the examiner, in applicants

specification. Applicant is invited to show the examiner where this aspect of the instant invention is found, should this have been overlooked by the examiner.


Therefore, the rejection of the claims (previously presented and newly presented) as set forth above is rendered obvious by the prior art patent CA 910844 for the reasons set forth above.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bruce F. Bell whose telephone number is 571-272-1296. The examiner can normally be reached on Monday-Friday 6:30 AM - 3:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Barr can be reached on 571 272-1414. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

BFB  
October 25, 2006

  
Bruce F. Bell  
Primary Examiner  
Art Unit 1746